

IN THE CLAIMS:

1. (currently amended) A dental matrix retainer used as an aid when filling two-surface cavities in the molars, with a matrix holder (3) and a device for tensioning a matrix band (2) placed in the form of a loop (22) around the tooth which is to be treated, the matrix holder (3) being composed of a housing (5) with a circular opening (8), and of a ~~spindle-like~~ inner body (9) which can turn in this opening (8) and which is provided with a gap (12), said gap (12) being able to be aligned with a slit (10) in the wall of the housing (5) such that the superposed ends of the matrix band (2) can be inserted into this slit (10) and into the gap (12) aligned therewith and can be tensioned on the tooth by turning the inner body (9), characterized in that a toothed wheel (13, 27) is provided on the upper end of the inner body (9) protruding from the circular opening (8) of the housing (5), said toothed wheel (13, 27) being able to be engaged immediately and to contact directly with a drive device (4) which has a laterally outwardly extended drive shaft (16), wherein the drive shaft (16) can be turned inside a tubular sleeve (20) with the aid of a rotary knob (19) provided at an end of the drive shaft (16) disposed remote from the drive pinion (17).
2. (previously presented) The matrix retainer as claimed in claim 1, characterized in that the toothed wheel at the upper end of the inner body (9) is a crown wheel (13) which can be brought into proximate engagement with a drive pinion (17) belonging to the drive device (4), which drive

pinion (17) can be turned via the laterally outwardly extended drive shaft (16).

3. (previously presented) The matrix retainer as claimed in claim 1, characterized in that the drive device (4) is composed of the drive shaft (16) and of the drive pinion (17) arranged at one end thereof.
4. (previously presented) The matrix retainer as claimed in claim 2, characterized in that the drive pinion (17) is slightly beveled at its front face.
5. (currently amended) The matrix retainer as claimed, in claim 1, ~~characterized in that the drive shaft (16) can be turned inside a tubular sleeve (20) with the aid of a rotary knob (19) provided at an end of the drive shaft (16) disposed remote from the drive pinion (17);~~ wherein a support fork (21) protrudes forward underneath the drive pinion (17) and from the tubular sleeve (20) and can slide under an edge (7) protruding laterally from the upper end of the housing (5).
6. (currently amended) A matrix retainer used as an aid when filling two-surface cavities in the molars, with a matrix holder (3) and a device for tensioning a matrix band (2) placed in the form of a loop (22) around the tooth which is to be treated, the matrix holder (3) being composed of a

housing (5) with a circular opening (8), and of a ~~spindle-like~~ inner body (9) which can turn in this opening (8) and which is provided with a gap (12), said gap (12) being able to be aligned with a slit (10) in the wall of the housing (5) such that the superposed ends of the matrix band (2) can be inserted into this slit (10) and into the gap (12) aligned therewith and can be tensioned on the tooth by turning the inner body (9), characterized in that a toothed wheel (13, 27) is provided on the upper end of the inner body (9) protruding from the circular opening (8) of the housing (5), said toothed wheel (13, 27) being able to be engaged with a drive device (4) which has a laterally outwardly extended drive shaft (16), wherein

the drive device (4) is composed of a drive worm (26) which engages with the toothed wheel (27) of the spindle (9) and which can be turned via a laterally outwardly extended drive shaft (16).

7. (previously presented) The matrix retainer as claimed in claim 1, characterized in that the matrix retainer is composed of two parts and comprises a matrix holder (3) and a separate drive device (4) attachable from a side to the matrix holder (3) and again disengageable from the matrix holder (3), wherein the drive device (4) includes a laterally outwardly extended drive shaft (16) and a drive pinion (17) disposed at an end of this drive shaft (16), wherein the drive pinion (17) can be engaged and disengaged with a crown wheel (13) of the inner body (9), and wherein the crown wheel (13) of the inner body (9) upwardly protrudes from the housing (5) of the matrix holder (3).

8. (currently amended) A dental matrix retainer used as an aid when filling two-surface cavities in the molars, comprising a matrix holder (3) and a drive device (4) connectable and again disengageable with the matrix holder (3) for tensioning of a matrix band (2) placed like a loop (22) around a tooth which is to be treated

the matrix holder (3) being composed of a housing (5) with a circular opening (8), and of a ~~spindle-like~~ inner body (9) which can turn in this opening (8) and which is provided with a gap (12), said gap (12) being able to be aligned with a slit (10) in the wall of the housing (5) such that the superposed ends of the matrix band (2) can be inserted into this slit (10) and into the gap (12) aligned therewith and can be tensioned on the tooth by turning the inner body (9), wherein a drive pinion (17) furnished at an end of a rotatable drive shaft (16) is bringable into engagement with a toothed wheel (13, 27) provided on the upper end of the inner body (9) protruding from the circular opening (8) of the housing (5),

characterized in that

the drive shaft (16) is rotatable within a tubular sleeve (20), wherein a support fork (21) projects in a front of the tubular sleeve (20) below the drive pinion (17), wherein the support fork (21) is disposed slidable under an edge (7) protruding from all sides at the housing (5) of the matrix holder (3), and wherein thereby the drive pinion (17) of the drive shaft (16) engages directly with the toothed wheel (13, 27) at the inner body (9) of the matrix holder (3).

9. (previously presented) The matrix retainer as claimed in claim `8, characterized in that the toothed wheel at the upper end of the inner body (9) is a crown wheel (13).

10.(previously presented) The matrix retainer as claimed in claim 8, characterized in that the drive pinion (17) is slightly beveled at its front face.

11.(previously presented) The matrix retainer as claimed in claim 8, characterized in that the drive shaft (16) can be turned inside a tubular sleeve (20) with the aid of a rotary knob (19) provided at an end of the drive shaft (16) disposed remote from the drive pinion (17).

12.(previously presented) The matrix retainer as claimed in claim 8, characterized in that the drive device (4) is composed of a drive worm (26) which engages with the toothed wheel (27) of the spindle (9) and which can be turned via a laterally outwardly extended drive shaft (16).

13. (currently amended) A dental matrix retainer used as an aid when filling two-surface cavities in the molars, comprising

a housing (5) having a wall, having a circular opening (8), and having a slit (10) in the wall;

a first edge (7) protruding laterally from an upper end of the housing (5);

a second edge (7) protruding laterally from an upper end of the housing (5), wherein the second edge (7) is disposed parallel to the first edge (7);

a ~~spindle-like~~ inner body (9) rotatable in this circular opening (8) and which inner body (9) is provided with a gap (12), said gap (12) being able to be aligned with the slit (10) in the wall of the housing (5) such that superposed ends of a matrix band (2) are insertable into this slit (10) and into the gap (12) aligned with the slit (10) and said matrix band (2) is tensionable on a tooth of a dental patient by turning the inner body (9);

a toothed wheel (13, 27) provided on an upper end of the inner body (9) protruding from the circular opening (8) of the housing (5), wherein the housing (5), the edge (7) protruding from all sides at the housing (5), the inner body (9), and the toothed wheel (13, 27) form a matrix holder (3);

a rotatable drive shaft (16);

a drive pinion (17) furnished at an end of the rotatable drive shaft (16) and bringable into engagement with the toothed wheel (13, 27) provided on the upper end of the inner body (9) protruding from the circular opening (8) of the housing (5);

a tubular sleeve (20) surrounding the ~~rotatable~~ rotatable drive shaft (16) and wherein the rotatable drive shaft (16) is rotatable within the tubular sleeve (20);

a support fork (21) projecting in a front of the tubular sleeve (20) below the drive pinion (17), wherein the support fork (21) is disposed slidable under the first edge (7) and under the second edge (7) protruding from two opposite sides

at the housing (5), and wherein thereby the drive pinion (17) of the drive shaft (16) engages directly with the toothed wheel (13) at the inner body (9), wherein the rotatable drive shaft (16), the drive pinion (17), the tubular sleeve (20), and the support fork (21) form a drive device (4), wherein the matrix holder (3) and the drive device (4) are connectable and again disengageable from the matrix holder (3) for tensioning of the matrix band (2) placed like a loop (22) around the tooth of a dental patient, which tooth is to be treated.

14. (previously presented) The matrix retainer as claimed in claim 13, wherein the toothed wheel at the upper end of the inner body (9) is a crown wheel (13); and wherein an axis of the drive shaft (16) intersects with an axis of the crown wheel at a right angle.

15.(previously presented) The matrix retainer as claimed in claim 14, wherein the drive pinion (17) is slightly conically beveled at its front face. such that the drive pinion (17) is better guidable into engagement with the crown wheel (13).

16.(previously presented) The matrix retainer as claimed in claim 13 further comprising

a rotary knob (19) provided at a second end of the drive shaft (16) disposed remote from the drive pinion (17), wherein the rotary knob turns the drive shaft (16) inside the tubular sleeve (20).

17. (currently amended) A dental matrix retainer used as an aid when filling two-surface cavities in the molars, comprising a housing (5) having a wall, having a circular opening (8), and having a slit (10) in the wall;
an edge (7) protruding from all sides at the housing (5);
a ~~spindle-like~~ inner body (9) rotatable in this circular opening (8) and which inner body (9) is provided with a gap (12), said gap (12) being able to be aligned with the slit (10) in the wall of the housing (5) such that superposed ends of a matrix band (2) are insertable into this slit (10) and into the gap (12) aligned with the slit (10) and said matrix band (2) is tensionable on a tooth of a dental patient by turning the inner body (9);
a toothed wheel (13, 27) provided on an upper end of the inner body (9) protruding from the circular opening (8) of the housing (5),
wherein the housing (5), the edge (7) protruding from all sides at the housing (5), the inner body (9), and the toothed wheel (13, 27) form a matrix holder (3);

a laterally, outwardly extended rotatable drive shaft (16);
a drive worm (17) furnished at an end of the rotatable drive shaft (16) and bringable into engagement with the toothed wheel (13, 27) provided on the upper end of the inner body (9) protruding from the circular opening (8) of the housing (5);

wherein the rotatable drive shaft (16), and the drive worm (26) form a drive device (4),

wherein the matrix holder (3) and the drive device (4) are connectable and again disengageable from the matrix holder (3) for tensioning of the matrix band (2) placed like a loop (22) around the tooth of a dental patient, which tooth is to be treated.

18. (previously presented) The matrix retainer as claimed in claim 13 further comprising
a ribbing (15) furnished on the inner body (9) between the gap (12) and the toothed wheel (13, 27), wherein the ribbing (15) serves to adjust the torque so that the matrix band cannot come loose when used as intended.

19. (previously presented) The matrix retainer as claimed in claim 13 further comprising
a rotary knob (19) attached to a second end of the drive shaft (16) for turning the drive shaft (16) inside the tubular sleeve (20);
wherein the support fork (21) protrudes forward underneath the drive pinion (17) from the sleeve (20), wherein the drive device (4) is pushable with the support fork (21) under the edge (7) of the housing (5) of the matrix holder (3) and wherein the drive pinion (17) comes into engagement with the toothed wheel (13) of the inner body (9).

20. (currently amended) The matrix retainer as claimed in claim 13 wherein

the support fork (21) has two tines, wherein the two tines extend in a direction parallel to the drive shaft (16), wherein the two tines have a rectangular cross-section, wherein each tine is furnished as a straight bar, and wherein the support fork is disposed at a height level located below a lower periphery of a motion of the drive pinion (17).

21. (previously presented) The matrix retainer as claimed in claim 20 further comprising

a third edge (7) protruding in a front from the upper end of the housing (5);
a fourth edge (7) protruding in a rear from the upper end of the housing (5),
wherein the fourth edge (7) is disposed parallel to the third edge (7); and
wherein the third edge (7) and the fourth edge (7) are disposed perpendicular to the first edge (7) and to the second edge (7), wherein the edges (7) all have the same length;

wherein a distance between the two tines is smaller than an outer distance between the first edge (7) and the second edge (7) and is larger than the outer diameter of the housing (5) immediately below the first edge (7) and the second edge (7);

wherein the housing (5) has a fourfold rotation axis and wherein two mirror planes of the housing (5) contain the fourfold rotation axis; wherein the housing contains three additional vertical slits (10); wherein each vertical slit (10) is furnished with two bevels (6', 6'') on the outside of the housing (5)..